

Critical literacy

Critical literacy approaches to science learning aim to develop students' understanding of how science texts work and to develop students' skills in judging the values and claims implicit in these texts.

Many of the features of science texts, including the vocabulary and style, and the linking of verbal, visual and mathematical language, aim to convince readers that the explanations and findings in these texts are authoritative, reliable and are based on evidence. In science, claims and explanations are not fixed forever nor are they beyond question, as new evidence developed in the future may suggest better explanations.

Students need to learn how and why these texts are constructed this way. They also need to be sceptical and learn how to question the usage of some 'scientific' findings that may not be reliable, or may be supportive of a suspect purpose.

Sample questions to support critical literacy (Early Stage 1/Stage 1 students)

Purpose(s) of science texts

- What do you predict this text will be about?
- What clues help you make your prediction?
- Who produced this text? How do you know?
- Who do you think this text is written for?
- Why was it produced?

Features and structure of science texts

- How many parts does this text have?
- What are their purposes?
- Which is the most important part? Are all parts equally important? How can you tell?
- Has any important part been left out? What needs to be added or changed?

Values of science texts

- How does the author try to make the text interesting to you?
- What does this text want you to know or do? Can you trust it? Why or why not?
- Can you add anything to this text or change it to make it better?
- What should you know or do after reading or viewing this text?

Critical literacy

Sample questions to support critical literacy (Stage 2/Stage 3 students)

Purpose(s) of science texts

- What do you predict this text will be about? What clues help you make your prediction?
- Who produced this text? Where does this text come from? How do you know?
- Who is expected to read this text? How do you know?
- What does the maker of this text want you to know or do?

Features and structure of science texts

- How many parts does this text have? What are their purposes?
- Which is the most important part? Are all parts equally important? How can you tell?
- Which part do you think was made first? Why?
- Are all the parts linked together? Why or why not?
- What type of language is mainly used in this text?
- What other texts are similar to this one?
- What claims and evidence are presented in this text? Can you trust them? Why or why not?
- How does the maker of the text try to persuade you to agree with what is claimed in the text?
- How credible is the author? Does the author have qualifications or experience in this topic?
- Who or what is shown in this text? Who or what has been left out? Why?
- Could further important claims or evidence be added to this text?

Values of science texts

- Why is this text presented the way it is?
- How has the maker of the text tried to persuade you to trust what is in the text?
- As a reader how are you expected to respond to this text?
- Who gains from this text?
- Does this text give a fair account of its topic? Why or why not? What further information or knowledge do you need to answer this question?
- What aspects of reality does this text focus on? What is left out? Does it matter if the text only covers some features in this topic?
- Are different interpretations of the topic of the text possible?
- Do other scientific texts present opposite or different findings on this topic? Which text should you trust and why? Should you wait for more evidence?
- How might this text be re-written to make it more convincing or to disagree with its main ideas?
- What should you know or do after reading or viewing this text?